

Oregon Wolf Conservation and Management

2018 Annual Report



This report to the Oregon Fish and Wildlife Commission presents information on the status, distribution, and management of wolves in the State of Oregon from January 1, 2018 to December 31, 2018.



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EXECUTIVE SUMMARY

Wolf program activities are guided by the Oregon Wolf Conservation and Management Plan (Wolf Plan) and the associated statutes and administrative rules. The Oregon Department of Fish and Wildlife (Department) monitors the wolf population and implements the Wolf Plan based on the number of successfully reproducing pairs of wolves in each management area. At the end of 2018, the Wolf Plan conservation objective of four breeding pairs for three years had not been reached in the West Wolf Management Zone (WMZ) and wolves there were still managed under Phase I. The wolf population in the East WMZ continued to exceed the Wolf Plan minimum objective of seven breeding pairs and wolves were managed under Phase III. Wolves are delisted statewide under the Oregon List of Endangered Species and are protected as a special status game mammal. Wolves occurring west of Oregon Highways 395/78/95 continued to be federally listed as endangered under the federal Endangered Species Act (ESA).

The minimum known count of wolves in Oregon at the end of 2018 was 137 wolves. That count increased by 10% from the 2017 minimum known number of 124. At the end of the year, 16 packs were documented and 15 of those packs met the criteria as breeding pairs. In addition, eight groups of two or three wolves were identified. Wolves were discovered in the central Oregon Cascades in Douglas and Lane Counties in late 2018. Other wolf groups occurred in parts of the following counties: Baker, Grant, Jackson, Klamath, Lake, Umatilla, Union, Wallowa, and Wasco.

The Department monitored 27 radio-collared wolves, including 14 that were captured and radio-collared during 2018. At year-end, 18 radio-collared wolves (13% of the minimum wolf count) were monitored in Oregon. Seven wolf mortalities were documented during the year, including six that were human-caused. Five dispersing radio-collared wolves were monitored, and four of these dispersed out of state before the end of the year.

The Department received 71 requests from livestock producers for investigation of dead or injured livestock suspected to be wolf depredation. Of those investigations, 28 were confirmed as wolf depredation, compared to 17 in 2017. As stipulated in the Wolf Plan, the Department and area producers implemented non-lethal measures to minimize depredation. In two instances non-lethal methods proved ineffective and as a result, per Oregon Administrative Rule (OAR) 635-110-0030, lethal measures were authorized to reduce chronic livestock depredation. Three wolves of the Pine Creek Pack were lethally removed and limited duration permits were issued to one livestock producer in the Chesnimnus Pack area where no wolves were killed.

The Oregon Department of Agriculture's compensation program awarded grants of \$160,890 to ten counties in 2018. Funds were used for non-lethal preventative measures and for direct payment of confirmed depredations and missing livestock to livestock producers.

OREGON WOLF PROGRAM OVERVIEW

Regulatory Status

Federal Status: Wolves occurring west of Oregon Highways 395/78/95 continue to be listed as endangered under the federal ESA (Figure 1). In the federally listed portion of Oregon, the Department implements the Wolf Plan under the guidance of the Federal/State Coordination Strategy (March 2011). The United States Fish and Wildlife Service (USFWS) makes all management decisions regarding harassment and take of wolves and collaborates on monitoring and depredation response.

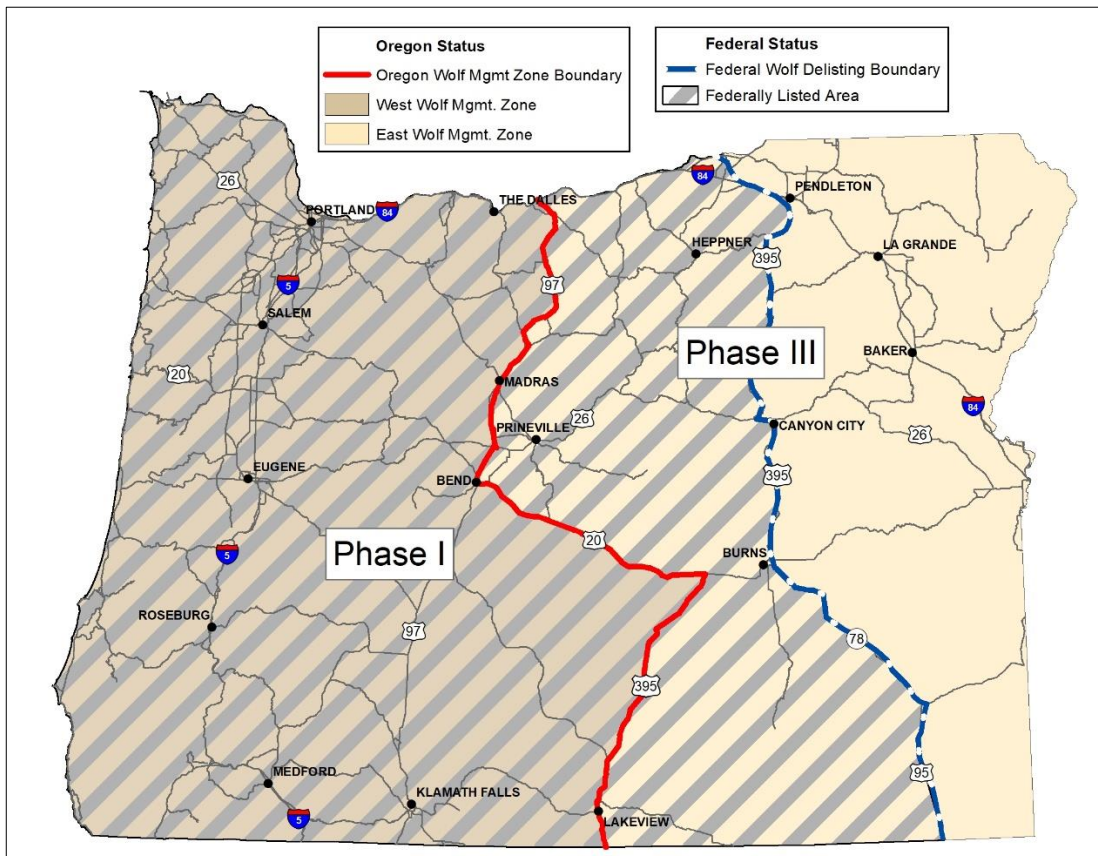


Figure 1. Wolf Management Zones and Federal ESA Status in Oregon.

State Status: The Fish and Wildlife Commission (Commission) decision on November 9, 2015 removed wolves from the Oregon List of Endangered Species. A lawsuit challenging the Commission's delisting decision was filed in 2016 by three environmental groups. The case is pending.

Wolves are protected statewide as a special status game mammal and managed by the Wolf Plan guidelines and associated rules based on where they are located. Wolves in the West WMZ are managed under the more protective Phase I rules until their population reaches a minimum of four breeding pairs for three consecutive years. A breeding pair is defined as an adult male and adult female with at least two pups that survived to December 31 of the year of their birth.

Wolves in the East WMZ continue to be managed under Phase III rules as more than seven breeding pairs were documented. Phase III continues to focus on conservation of wolves while addressing occurrences of wolf conflict. This includes continuing to emphasize the use of non-lethal deterrents to reduce livestock depredation, the use of controlled take in certain situations, and permit additional agencies to investigate potential wolf depredations of livestock.

Department staff continued work on the Wolf Plan-mandated review in 2018, an effort that began in 2016. At the January 2018 meeting, the Commission directed the Department to conduct additional facilitated discussions with stakeholder representatives in hopes of getting more consensus on certain issues. Four facilitated stakeholder meetings were held between August and November and an update of those meetings was presented at the December Commission meeting in Salem. The review and update process will continue in 2019.

Minimum Numbers, Distribution, and Reproduction

Minimum Numbers and Distribution: Currently, the Department provides a minimum known number of wolves present in Oregon at the end of the year; it is a direct count of wolves, not an estimate. The minimum known wolf count in 2018 was 137, a 10% increase from 2017 (Figure 2). The actual number of wolves in Oregon is likely higher because not all individuals or groups of wolves present in the state are located during the winter count. The Wolf Plan dictates a minimum count of breeding pairs for a WMZ in Phase I and II, and a count of packs during Phase III. The department has continued to count individual wolves and breeding pairs statewide, but this count will become more expensive and challenging to implement as the number and distribution of wolves continues to increase.

For monitoring purposes, a pack is defined as four or more wolves traveling together in winter. Sixteen packs were documented at the end of 2018, with a mean pack size of 7.1 wolves and ranging between four and twelve (Figure 3). In addition, eight groups of two or three wolves were identified. Throughout this report, group is used to denote two or more wolves traveling together. The pack and wolf numbers could increase if evidence is collected during 2019 of additional wolves present during 2018.

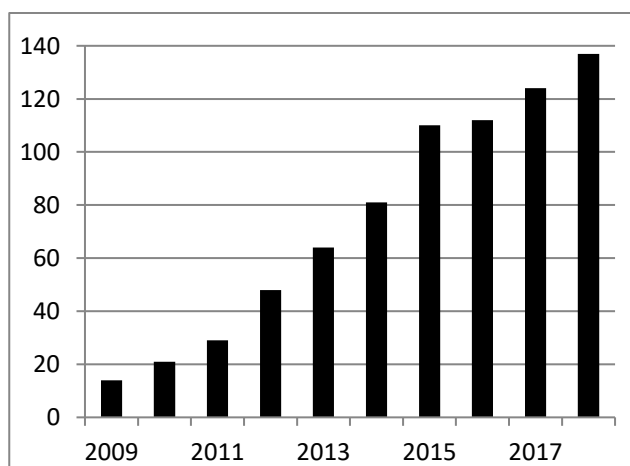


Figure 2. Minimum wolf count in Oregon (2009-2018).

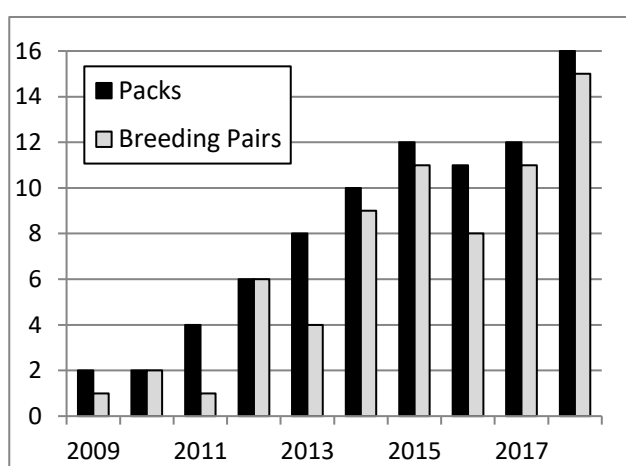


Figure 3. Number of packs and breeding pairs in Oregon (2009-2018).

The sixteen packs were distributed in three geographic areas of Oregon; fourteen packs in northeastern Oregon, one in the southern Oregon Cascades, and one in the northern Oregon Cascades (Table 1). Eleven percent of known wolves were in the West WMZ. Known resident wolves were located in parts of Baker, Douglas, Grant, Jackson, Klamath, Lake, Lane, Umatilla, Union, Wallowa, and Wasco Counties (Figure 4). For groups that had considerable GPS radio-collar data (n=6), the pack territory sizes ranged from 144 to 413 mi² (373-1,070 km²) with a mean of 256 mi² (663 km²).

Table 1. Minimum wolf numbers (total = 137) in Oregon on Dec. 31, 2018 by Wolf Management Zone. Underlined packs were counted as breeding pairs.

Pack/Group	WMZ	Total	Pack/Group	WMZ	Total
<u>Catherine Pack</u>	East	7	<u>Rogue Pack</u>	West	6
<u>Chesnimnus Pack</u>	East	7	<u>Ruckel Ridge Pack</u>	East	8
Desolation Wolves	East	2	Silver Lake Wolf	West	1
<u>Five Points Pack</u>	East	6	<u>Snake River Pack</u>	East	8
Keating Wolves	East	3	<u>South Snake Pack</u>	East	6
Indigo Wolves	West	3	<u>Walla Walla Pack</u>	East	8
<u>Middle Fork Pack</u>	East	8	Wenaha Pack	East	6
<u>Minam Pack</u>	East	8	<u>White River Pack</u>	West	5
Mt. Emily Wolves	East	2	<u>Wildcat Pack</u>	East	4
<u>Noregaard Pack</u>	East	8	OR30 Wolves	East	2
<u>North Emily Pack</u>	East	7	OR64 Wolves	East	2
<u>Pine Creek Pack</u>	East	12	Individual/Misc. Wolves	East	8

For the second year in a row, resident wolves were documented in a new area of the state. In late 2018, wolves were discovered in the central portion of the Oregon Cascades. At least three wolves were using an area in the eastern Indigo Wildlife Management Unit (WMU) of Lane and Douglas Counties. These wolves were located after investigating public reports of wolf tracks and sightings.

During 2018, three pairs formed new packs after successful reproduction, all in Wallowa County. The Wildcat Pack in the Sled Springs WMU, a new Chesnimnus Pack using the Sled Springs and Chesnimnus WMUs, and a new South Snake Pack using the Snake River and Pine Creek WMUs.

During the winter count, individual wolves were counted in the Desolation, Heppner, Keating, and Murderer's Creek WMUs. One collared wolf was actively dispersing through the central Blue Mountains. A group of two wolves was documented in the Catherine Creek WMU, two wolves in the Chesnimnus WMU, two in the Desolation WMU, and three wolves in the Keating WMU. Individual wolves have been documented dispersing through Heppner WMU for the last two years, but two were documented together during the winter count. Some of these wolves were resident and may be the start of new packs; others were located during the winter count and will continue to be monitored for residency.

Four designated Areas of Known Wolf Activity (AKWA) were discontinued. The Harl Butte, Meacham, and Shamrock Packs appeared to break up and leave their territories during 2018. The OR37 AKWA in Lookout Mt WMU was discontinued when he was not located during the year.

The Grouse Flats and new Butte Creek Packs from Washington have locations in the Wenaha WMU in Oregon during 2018. Wolves from both of these packs have traditionally denned in Washington and are not counted in Oregon's annual count. The Grouse Flats Pack's estimated use area is partially in Oregon. More information about Washington packs is available at www.wdfw.wa.gov.

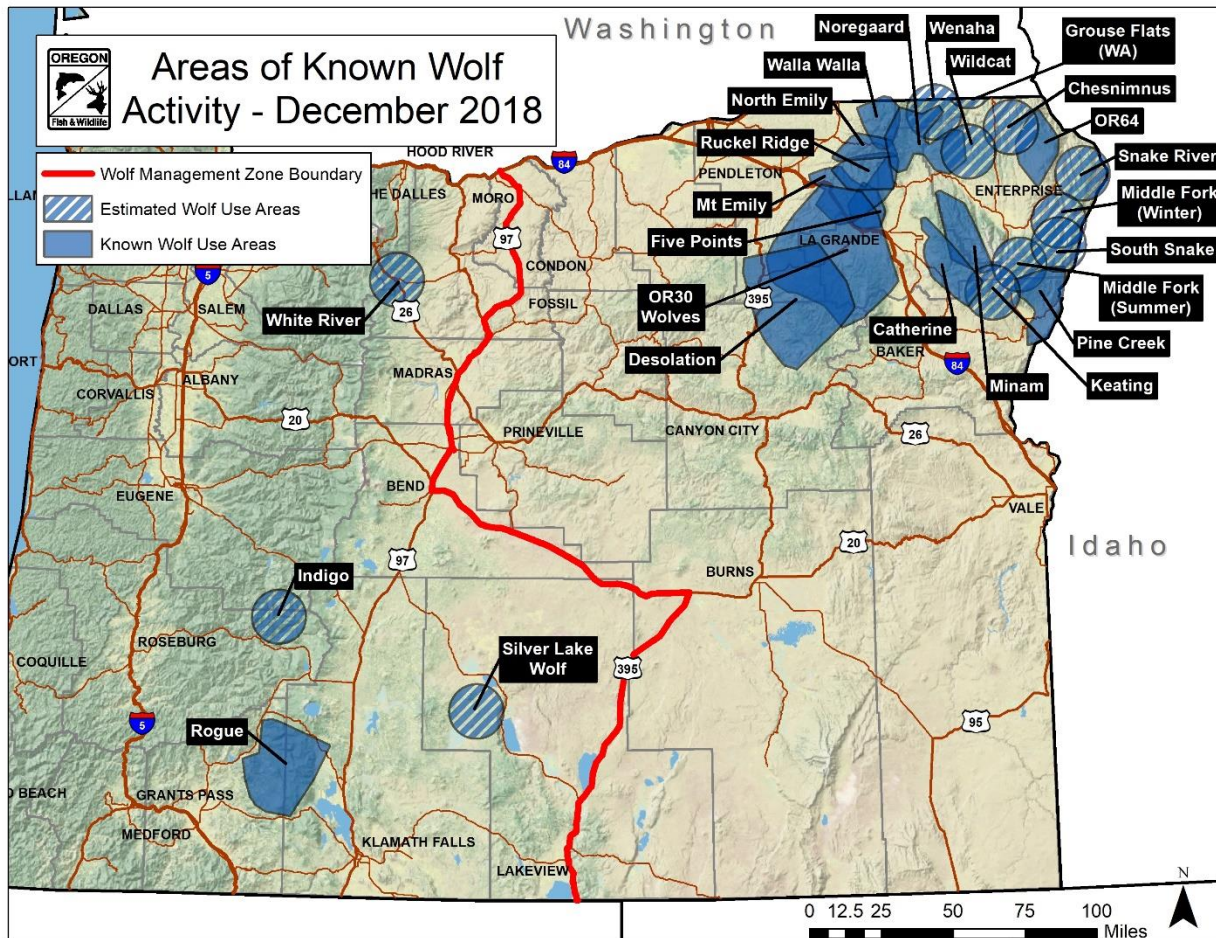


Figure 4. Distribution of known resident wolf activity areas in December 2018.

Reproduction: At the end of 2018, fifteen packs were documented as successful breeding pairs, a 36% increase from 2017. Reproduction was documented in sixteen groups. The breeding female in the Wenaha Pack disappeared during the summer and reproduction was not documented. The female wolf was at least ten years old and appeared in poor condition in remote camera photographs. A new pair of wolves bred in the area formerly occupied by the Harl Butte Pack, but that group was not located during the winter count.

Monitoring

Fourteen wolves were captured and radio-collared during 2018, three of which were recaptures. Thirteen wolves were radio-collared with GPS radio-collars and one with a VHF radio-collar. VHF radio-collars are more labor intensive to monitor in the field, but the collars have a lower failure rate and longer battery life. The Department captured two wolves using foothold traps and ten by

helicopter darting operations in the East WMZ. USFWS trapped and radio-collared one wolf in the West WMZ. In the East WMZ, one wolf was incidentally trapped by a licensed trapper, fitted with a new radio-collar by the Department, and safely released.

Data was collected for 27 radio-collared wolves in fifteen groups during 2018. By year end, eighteen of these wolves were still being actively monitored (approximately 13% of the minimum wolf count) and represented seven packs (Catherine, Five Points, Noregaard, North Emily, Pine Creek, Ruckel Ridge, and Wenaha), three groups of two or three wolves (Desolation, Mt Emily, Butte Creek, OR30, OR64), and two lone individuals.

Five radio-collared dispersing wolves were monitored in 2018. One wolf was actively dispersing within Oregon at year-end. Four wolves dispersed out of state, traveling to Idaho (n=1) and California (n=3). Contact with eight radio-collars was lost during the year when four wolves dispersed out of state, two radio-collared wolves died, one GPS radio-collar failed, and the status of one GPS radio-collared wolf was unknown. At the end of the year, three GPS collars were working intermittently.

In addition to monitoring information downloaded from GPS radio-collars, Department biologists visually monitored radio-collared and accompanying wolves from the air and ground; implemented track and howling surveys; and, conducted remote camera surveillance within areas of known or suspected wolf activity. Through collar data and surveys, the Department collected 15,836 wolf location data points in Oregon in 2018. Of those, 53% of locations for resident wolves were on public lands, 40% on private lands, and 7% on tribal lands.

Wolf reports from the public increased over 2017, with 434 wolf reports received by Department biologists or the Department's online wolf reporting system (www.odfw.com/wolves) during the year. Subsequent follow-up of some of these public reports yielded valuable information about new wolf activity and existing groups without radio-collars.

Mortalities: Seven wolf mortalities were documented during 2018, down from thirteen in 2017. A four-month-old wolf pup of the Noregaard pack died of natural causes and a necropsy completed by the Oregon State University Veterinary Diagnostic Laboratory revealed that the pup died of parvovirus. A 1½-year-old wolf from the White River Pack died one month after being trapped and radio-collared. The Oregon State University Veterinary Diagnostic Laboratory could not establish a definitive cause of mortality, but indicated that the wolf had chronic systemic inflammation and likely died of starvation, possibly related to a foot injury.

Three uncollared wolves were killed lawfully per OAR 635-110-0030 (Phase III rule) in northeastern Oregon. The wolves were lethally removed from the Pine Creek Pack in response to chronic depredation situations (see the Livestock Depredation Management section for information).

Two wolves were illegally killed in 2018 and those investigations are ongoing. A juvenile wolf, believed to be from the Grouse Flats Pack (Washington), died in Oregon after being shot and the radio-collared breeding female of the Mt Emily Pack was shot on the Confederated Tribes of the Umatilla Indian Reservation (CTUIR). Oregon State Police and CTUIR Law Enforcement are actively seeking more information about these cases. Rewards ranging from \$2,500 to \$15,000 have been offered for information leading to a conviction in these cases and cases from previous years.

Department Wolf Research

The Oregon State University/ODFW wolf-cougar research project in northeastern Oregon concluded field data collection in 2017. This project is primarily focused on understanding competitive interactions and differences in prey selection between wolves and cougars in the Mt. Emily WMU. Data analysis and the project are expected to be completed in 2019.

Information and Outreach

The Department continued to rely on its internet-based wolf webpages (<http://www.odfw.com/wolves>) as the primary information distribution tool in 2018. The online wolf pages have information about wolf biology, the Wolf Plan, specific pack information, and reporting wolf sightings. Throughout the year, the pages received 162,403 views. The wolf program home page alone received nearly 36,000 views. Currently, 8,040 people subscribe to the Department's wolf program email update page.

The Department also maintains a wolf-livestock update page that focuses on the information needs of livestock producers and the requirements under Phase I Oregon Administrative Rules. Since this page was launched, 6,105 people have subscribed to receive updates on confirmed depredations, maps of AKWAs and Areas of Depredating Wolves, Conflict Deterrence Plans, and other information.

The Department also shared wolf-related content on its social media channels (Facebook, Instagram, and Twitter), which generated significant engagement. Department wolf biologists took over the department's Instagram page for a week with behind the scenes photos of their work during the annual winter wolf count and it was one of the Department's most popular Instagram takeovers of the year. Staff also regularly responded to wolf-related questions and comments across these social media channels.

In addition to web-based information, the Department conducted numerous media interviews to print, radio, and television reporters. The Department collaboratively organized and presented at a two-day workshop in Umatilla County that focused on educating livestock producers about proactive implementation of livestock management practices to reduce livestock depredation in large pasture situations. Presentations were given to schools, universities, other agencies, agriculture meetings and organizations, civic organizations, and conservation groups. The Department responded to a variety of queries from students of all levels writing papers or articles on wolves.

Wolf Program Funding

The majority of wolf program funding for the 2017-2019 biennium consists of federal funds from the Pittman-Robertson Grant Program. This federal grant requires 25% state match, which comes from a combination of Department license dollars (9.5%) and Lottery Funds (15.5%). Two full time employees and two summer student interns are associated with the program. The total budget allocation for the 2017-2019 biennium is \$678,223.

LIVESTOCK DEPREDATION MANAGEMENT

Wolf Depredation Summary

In 2018, the Department received 71 requests from livestock producers for investigation of dead or injured livestock suspected to be wolf depredation, an 8% increase from 2017 (66 requests). The investigations resulted in 28 (~39%) *confirmed* determinations, 0 *probable* determinations, 12 (~17%) *possible/unknown*, and 31 (~44%) *other* (not wolf-related). Depredations were confirmed in seven counties: Baker, Grant, Jackson, Klamath, Umatilla, Union, and Wallowa.

Confirmed depredation events increased 65% in 2018 from 2017 (28 vs. 17). Confirmed losses (livestock killed) in 2018 were 17 calves, 1 llama, and 2 livestock guardian dogs (Table 2), compared to 11 calves, 1 llama, 1 alpaca, and 23 domestic fowl in 2017 (Figure 5). In addition to the losses, thirteen calves were confirmed injured by wolves. One individual wolf and three wolf groups each depredated one time during 2018, and one group depredated twice. The majority of the depredation was done by three packs: Rogue (n=11), Pine Creek (n=6), and Chesnimnus (n=5).

Table 2. Summary of 2018 confirmed wolf depredation incidents in Oregon.

Date	Animals Affected	County	Pack or Wolf Area
1/4/2018	Cow (Dead: 1 calf)	Jackson	Rogue
1/10/2018	Cow (Dead: 1 calf)	Jackson	Rogue
1/11/2018	Cow (Dead: 1 calf)	Jackson	Rogue
1/30/2018	Llama (Dead: 1 adult)	Union	Five Points
4/6/2018	Cow (Dead: 2 calves)	Baker	Pine Creek
4/7/2018	Cow (Dead: 1 calf, Injured: 4 calves)	Baker	Pine Creek
4/15/2018	Cow (Dead: 1 calf)	Baker	Pine Creek
4/16/2018	Cow (Injured: 1 calf)	Baker	Pine Creek
4/16/2018	Cow (Injured: 1 calf)	Baker	Pine Creek
4/18/2018	Cow (Injured: 1 calf)	Baker	Pine Creek
6/12/2018	Cow (Injured: 1 calf)	Wallowa	Wildcat
6/13/2018	Cow (Injured: 1 calf)	Wallowa	Chesnimnus
6/13/2018	Cow (Injured: 1 calf)	Wallowa	Chesnimnus
6/14/2018	Cow (Injured: 1 calf)	Wallowa	Chesnimnus
7/22/2018	Cow (Dead: 1 calf)	Wallowa	Harl Butte AKWA
7/23/2018	Working Dog (Dead: 1 adult)	Umatilla	Ruckel Ridge
8/2/2018	Cow (Injured: 1 calf)	Wallowa	Chesnimnus
8/20/2018	Cow (Dead: 1 calf)	Wallowa	Chesnimnus
9/12/2018	Cow (Dead: 1 calf)	Wallowa	Harl Butte AKWA
9/25/2018	Working Dog (Dead: 1 adult)	Jackson	Rogue
10/22/2018	Cow (Injured: 1 calf)	Grant	No known pack
10/24/2018	Cow (Dead: 1 calf)	Klamath	Rogue
10/24/2018	Cow (Dead: 1 calf)	Klamath	Rogue
10/24/2018	Cow (Dead: 1 calf)	Klamath	Rogue
10/27/2018	Cow (Dead: 1 calf)	Klamath	Rogue
11/10/2018	Cow (Dead: 1 calf)	Jackson	Rogue
11/18/2018	Cow (Dead: 1 calf)	Jackson	Rogue
12/23/2018	Cow (Dead: 1 calf)	Jackson	Rogue

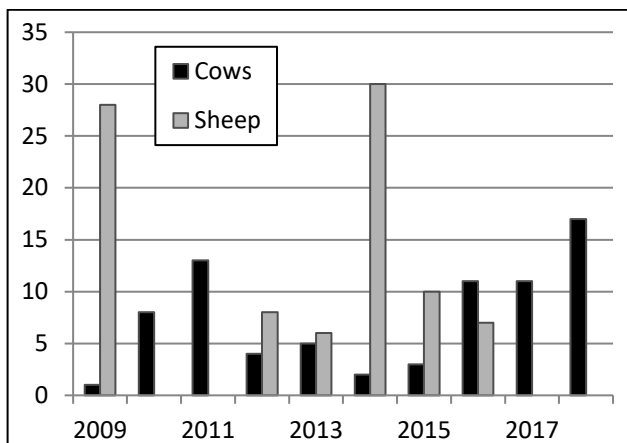


Figure 5. Number of confirmed cattle and sheep losses by year (2009-2018).

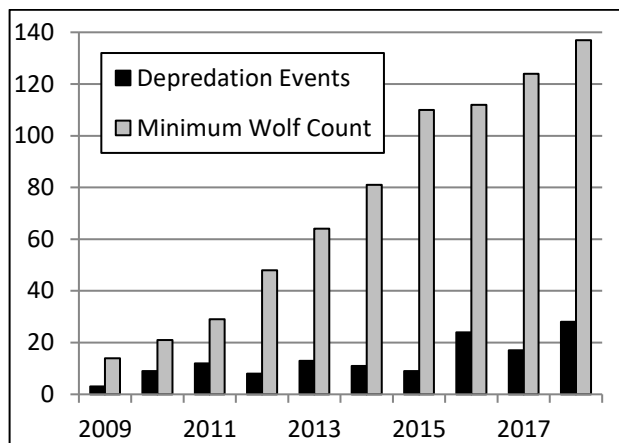


Figure 6. Number of confirmed depredation events and minimum wolf count (2009-2018).

Efforts to Minimize Depredation

The Wolf Plan mandates a focus on non-lethal efforts before lethal removal is considered in all phases of wolf management. Although minimum wolf numbers have increased considerably over the last nine years, depredation events and livestock losses have not increased at the same rate (Figure 6).

Since 2009, 76% of confirmed events have occurred on private land. Sixty-five percent of confirmed events have occurred in large pasture or open range situations. Depredations have occurred in open (45%), forested (34%), and mixed (21%) habitats. Oregon's depredation of cattle and sheep data across all years (n=125) shows that 74% of depredation events happen during six months (April, May, June, August, September, and October). This information may help livestock managers know where and when to focus preventative actions.

Non-Lethal Options: Effective proactive non-lethal measures vary by the type of livestock being protected and the size and location of the pasture. Reducing attractants by carcass and bone pile removal may be the single best action to prevent attracting wolves to areas of livestock. The Department, USFWS, and USDA Wildlife Services continued to support producers with technical advice, non-lethal supplies, and assistance with implementation. The Department assisted with attractant removal, hazing, electrified fladry, fencing maintenance, fence chargers, radio-activated guard (RAG) boxes, deterrent lighting, and other scare devices.

In 2018, nineteen designated or revised Area of Known Wolf Activity maps were posted in order to inform livestock producers of resident wolf activity. District wildlife biologists informed producers when new areas of resident wolves overlapped with their livestock and worked with them to implement non-lethal strategies. In response to depredation, the map of the Rogue Pack Area of Depredating Wolves as well as the Conflict Deterrence Plan were updated and posted on the Department's wolf website, per OAR 635-110-0010 (Phase I).

Lethal Options: Within the federally listed portion of Oregon, all lethal take is regulated by the USFWS and no lethal removal was conducted in this area. In 2018, the Rogue Pack depredated eleven times in the federally protected area.

Within the federally delisted portion of Oregon and under OAR 635-110-0030 (Phase III), the Department may lethally remove wolves or issue a limited duration permit for a livestock producer to kill wolves to minimize further depredation. The Department authorized incremental lethal removal of wolves in two pack areas after non-lethal measures and hazing were unsuccessful in minimizing depredation. In early April, one wolf of the Pine Creek Pack was lethally removed by the Department in response to an ongoing chronic depredation situation. After three additional depredations, two more Pine Creek wolves were removed in mid-April. In June, the Department issued a limited-duration permit to one livestock producer to kill one wolf in response to a chronic depredation situation in the Chesnimnus AKWA. The expired permit was re-issued after the producer experienced another confirmed loss in August. No wolves were killed under the permits.

Compensation for Wolf-Caused Losses

The Oregon Department of Agriculture's (ODA) Wolf Depredation Compensation and Financial Assistance County Block Grant Program provides four types of financial assistance options: direct compensation for confirmed and probable wolf depredations; payment for livestock reported as missing; costs to purchase supplies and implement preventative measures; and, program implementation costs. The Department's primary roles are to delineate AKWAs and to investigate dead or injured livestock to determine if wolf depredation has occurred. Some counties requested the Department to provide input on wolf activity and appropriate preventative non-lethal measures. Ten counties applied for \$332,223 in grant funds. ODA was able to award \$160,890, down from \$252,570 awarded in 2017 (Table 3).

Table 3. Funds awarded through the County Block Grant Program in 2018 (source; Oregon Department of Agriculture).

County	Death/Injury	Missing	Prevention	Admin	Total
Baker	0	\$750	\$12,000	\$495	\$13,245
Jackson	\$3,000	0	\$16,000	0	\$19,000
Klamath	0	0	\$5,000	0	\$5,000
Lake	0	0	\$4,000	0	\$4,000
Malheur	0	0	\$3,200	\$450	\$3,650
Morrow	0	0	\$3,200	\$450	\$3,650
Umatilla	\$4,221	\$10,566	\$27,000	\$675	\$42,462
Union	\$1,000	\$1,825	\$12,000	0	\$14,825
Wallowa	\$5,550	\$7,905	\$37,853	\$650	\$51,958
Wasco	0	0	\$3,100	0	\$3,100
Award Amount	\$13,771	\$21,046	\$123,353	\$2,720	\$160,890